

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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| Applicant(s): He, et al.                                | Confirmation No. <b>7416</b>   |
| Application No.: 10582820                               | Art Unit:<br>1634              |
| Filed: 10/8/2008  | Examiner:<br>SISSON, BRADLEY L |
| Title: Single Molecule Detection Using Molecular Motors |                                |
| Attorney Docket No.: 60224US                            |                                |

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

STATEMENT OF THE SUBSTANCE OF THE INTERVIEW

Dear Sir:

This is a statement of the substance of the interviews conducted by telephone on June 21, 2011.

All participants (applicant, applicant's representative, PTO personnel):

- (1) Bradley L Sisson (Examiner).
- (2) Wayne Frasc (Applicant).
- (3) George A. Leone (attorney of record).

Claim(s) discussed: Draft 1-3 and proposed new claims 10- 13.

Agreement with respect to the claims was not reached.

Identification of prior art discussed: \_\_\_\_\_.

Agreement with respect to the claims was not reached.

A statement of the interview is included in the following **Remarks** Section beginning on page 2.

**STATEMENT OF THE SUBSTANCE OF THE INTERVIEW**

Examiner Sisson indicated that the proposed amendments do address some of the outstanding issues of record. Co-inventor Frasch indicated that applicant have discovered that the method works best if they have the first and second target-specific nucleic acids hybridize to the target in solution , to coat a solid support with the molecular motor, and then add the hybridized nucleic acids to the immobilized motor. Co-inventor Frasch indicated that one observes the movement of the metal nanorods ("detection probe") across the surface of the solid support. The aspect of limiting claims 1 and 10 to where the complex is immobilized to a support surface prior to detection of changes in light intensity was discussed. The aspect of requiring each "detection probe" (metal nanorod) to be capable of generating spectrally-distinguishable signals was discussed. Agreement was reached in that if multiple target nucleic acids were to be detected, the resultant complexes would each need to have a different label. The aspect of moving draft claim 11 into each of claims 1 and 10 was discussed. The aspect of broadening claim 10 to refer to use of microscopy generally and add a dependent claim to >dark field microscopy< was discussed. The aspect of the claims not reciting hybridization conditions was discussed. Examiner Sisson expressed concern over the claims encompassing conditions where the probes may hybridize to unintended targets and thereby allow for generation of a signal from the detectable probe when the target was not actually present. Using claim 1 as an example, Examiner Sisson suggested inserting the term >only< in step (b), line 2, between "will" and "hybridize." In response to statement by co-inventor Frasch that the claimed method could be practiced with a different label and not just "metal nanorods," Examiner Sisson noted that searches of prior art for the claimed method as it relates to using "metal nanorods" had returned only limited documents, while there may well exist issues of obviousness (35 USC 103(a)) for where other labels are used. All parties agreed to reconvene the following week to continue discussions of proposed claim amendments.

Application No.: 10582820  
Statement. dated August 8, 2011  
Reply to Communication of 06/29/2011

Respectfully Submitted,

August 8, 2011  
Date

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